

# Pathogen laboratory Safest risk in town

Dr. Kenneth G. Johnson, NRC Staff Microbiologist, has his office on the top floor of the main Council building on Sussex Drive in Ottawa. Impressions: smells of formaldehyde and acetone; windows with stone casements, overlooking the Gatineau Hills; children's artwork on the wall: *I'm Mr. Microbe. Won't you study me?*

Ken Johnson is talking about acceptable risk. "All technology has hazards, the old as well as the new. In terms of deaths caused, coal mining is more dangerous than nuclear power. Cars are powered by poison-gas generators, and electricity enters homes at voltages that can kill.

"By contrast, we've done our best in the Division of Biological Sciences to make

our research into bacterial pathogens not just safe, but as safe as humanly possible. My cigarette smoke is probably the most hazardous thing you'll be exposed to on this floor."

Ken Johnson is principal designer and user of the NRC Pathogen Laboratory, whose door stands less than four yards away from where he talks. A few yards farther, past more doors and pressure barriers, are kilograms of micro-organisms causing gonorrhea, cholera and meningitis. They have been produced there, in the heart of a medium-sized city, for more than four years. They have caused not a single infection. The Path Lab is beyond doubt one of the *safest* risks in town.

Ken Johnson: "Scientists once suspected

that every human ailment was caused by its unique microbe. In turn, all pathogenic bacteria were thought to do their damage by secreting organic poisons called toxins. We now know about many other things besides bacterial toxins that make people sick: allergies, parasites, viruses. Pathogenic bacteria are only part of this crowd."

The bacterial part of "this crowd" has, moreover, seemed to be controllable in recent years. The inoculations, drugs and

**Ken Johnson:** "Under perfectly controlled conditions, nature does what she bloody well pleases." (Photo: Bruce Kane, NRC)

**Ken Johnson:** «Le comportement des bactéries semble parfois défier les lois de la nature.» (Photo: Bruce Kane, CNRC)

